



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/803,190

03/18/2004

Shunpei Yamazaki

0756-7269

5109

31780

7590

01/08/2009

ERIC ROBINSON

PMB 955

21010 SOUTHBANK ST.

POTOMAC FALLS, VA 20165

EXAMINER

TRAN, MY CHAU T

ART UNIT

PAPER NUMBER

2629

MAIL DATE

DELIVERY MODE

01/08/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/803,190	<b>Applicant(s)</b> YAMAZAKI ET AL.	
	<b>Examiner</b> MY-CHAU T. TRAN	<b>Art Unit</b> 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 2-5,8,9,12,13 and 15-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,6,7,10,11,14 and 23-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/27/2008</u>  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Application and Claims Status***

1. Applicant's amendment and response filed 10/27/2008 are acknowledged and entered.
2. Claims 1-31 were pending. Applicants have amended claims 1, 7, 11, and 23-25. No claims were added and/or cancelled. Therefore, claims 1-31 are currently pending. Claims 2-5, 8, 9, 12, 13, and 15-22 are drawn to non-elected species and/or inventions, wherein the election was made with traverse in the reply filed on 05/16/2007, and thus these claims remain withdrawn from further consideration by the examiner, 37 CFR 1.142(b), there being no allowable generic claim. Accordingly, claims 1, 6, 7, 10, 11, 14, and 23-31 are under consideration in this Office Action.

### ***Election/Restrictions***

3. This application contains claims 2-5, 8, 9, 12, 13, and 15-22 are drawn to inventions nonelected with traverse in the reply filed on 05/16/2007. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

### ***Maintained Rejection(s)***

### ***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Art Unit: 2629

5. Claims 1, 6, 7, 10, 11, 14, and 23-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishitoba et al. (US Patent 6,774,877) in view of Yudasaka (US Patent 6,359,606 B1).

For **claims 1, 6, 7, 10, 11, 14, and 23-31**, Nishitoba et al. disclose an organic electroluminescent (EL) image display device (see e.g. Abstract; col. 1, lines 7-12; col. 3, line 49 thru col. 4, line 14; fig. 3). As illustrated by figure 3, the device comprises an organic EL element (ref. #11) (refers to instant claimed light emitting element/pixel electrode) and two transistors (ref. #8 and 9) (refers to instant claimed first and second transistors) connected to the organic EL element in a series (see e.g. col. 6, lines 17-59). The anode of the organic EL element (ref. #11) is connected to the drain (refers to instant claimed limitation of *'one of a source region and a drain region of the first transistor is connected to the light emitting element'*) of transistor (ref. #8)(refers to instant claimed first transistor) and the source of transistor (ref. #8) is connected to the drain of transistor (ref. #9)(refers to instant claimed second transistor) (refers to instant claimed limitation of *'the other one of the source region and the drain of the first transistor is connected to one of a source region and a drain region of the second transistor'*) (see e.g. col. 6, lines 17-27; fig. 3). Additionally as illustrated by figure 3, the device comprise a switching transistor (ref. #12) (refers to instant claimed third transistor) wherein the drain (refers to instant claimed first electrode of the third transistor) is connected to the signal line (ref. #3) and the source (refers to instant claimed second electrode of the third transistor) is connected to the gate electrodes of both transistors (ref. #8 and 9) (see e.g. col. 6, lines 28-36). The gates of the transistors (ref. #8 and 9) are connected to each others (refers to instant claimed gate electrodes) and they are p-channel MOS transistors (refers to instant claimed

Art Unit: 2629

p-type transistor/same polarity) (see e.g. col. 6, lines 24-25 and 39-40; fig. 3). Nishitoba et al. disclose that the transistor (ref. #9) compensates the variations in the threshold voltage of the transistor (ref. #8) (see e.g. col. 6, lines 38-59). The transistor (ref. #8) operates in the saturation region, and the transistor (ref. #9) operates in the non-saturation region, i.e. linear region (see e.g. col. 6, lines 38-59). Nishitoba et al. also disclose that the channel width of transistors of references #6 to #9 is 4  $\mu\text{m}$ , i.e. constant (see e.g. col. 7, lines 42-44). As shown in figure 6, there is a relationship between the channel length of transistors of references #7 and #9 and the variations in output current such that the desired characteristics can be obtained by selecting the channel length of transistors of references #7 and #9 according to the picture quality that is demanded of the image display device (see e.g. col. 6, lines 38-59; col. 7, lines 23-57), which imply that the size of the transistor's channel, i.e. length and width, would be a choice of experimental design and is considered within the purview of the cited prior art. Moreover, Nishitoba et al. disclose that the channel length of transistors of references #7 and #9 can be set to at least 0.5 times or at least one time but not greater than four times the channel length of transistors of references #6 and #8, i.e. if the channel length of transistor (ref. #9) is set at 15  $\mu\text{m}$  then the channel length of transistor (ref. #8) is 7.5  $\mu\text{m}$  such that the channel length of transistor (ref. #9) is 0.5 times that of the channel length of transistor (ref. #8) (see e.g. col. 7, lines 54-57).

For **claims 11, and 25**, Nishitoba et al. disclose the method of driving the light emitting device wherein the step comprises controlling the current to be supplied to a light emitting device by the first and second transistors (see e.g. col. 3, line 49 thru col. 4, line 14; col. 6, line 60 thru col. 7, line 22; figs. 3 and 4). Moreover, Nishitoba et al. disclose the claimed structural features of the instant claimed light emitting device as discussed above.

Art Unit: 2629

The teachings of Nishitoba et al. differ from the presently claimed invention as follows:

For **claims 1, 7, 11, and 23-25**, Nishitoba et al. fail to disclose the limitation that ‘*wherein the first transistor and the second transistor share a same semiconductor layer*’, i.e. the first and second transistors are formed on the same semiconductor layer.

However, Yudasaka teach the limitation that is deficient in Nishitoba et al. as follows:

For **claims 1, 7, 11, and 23-25**, Yudasaka disclose an active matrix display device and the method of making the device (see e.g. Abstract; col. 1, lines 5-12; col. 2, line 56 thru col. 3, line 7; col. 9, line 1 thru col. 10, line 56). The active matrix device comprises at least two thin film transistors (TFT) and an electroluminescent element (EL element) (see e.g. col. 1, lines 5-12; col. 4, line 59 thru col. 5, line 67; col. 9, lines 2-15; figs. 1-3). As illustrated by figures 1 and 2, the first TFT (ref. #20) and the second TFT (ref. #30) are formed on the substrate (ref. #10) (see e.g. col. 5, lines 31-45; col. 9, lines 1-54; fig. 3A and 3B). The method of making the device comprises the steps of first forming a foundation protective film composed of a silicon oxide film (refers to instant claimed semiconductor layer); and then a semiconductor film is formed on the surface of the foundation protective film (see e.g. col. 9, lines 8-28). The semiconductor film is patterned into island like semiconductor film that result in the formation of the first TFT (ref. #20) and the second TFT (ref. #30) (refers to instant claimed limitation of ‘*wherein the first transistor and the second transistor share a same semiconductor layer*’) (see e.g. col. 5, lines 31-35; col. 9, lines 1-54). Both the first TFT (ref. #20) and the second TFT (ref. #30) can be P-type transistor (see e.g. col. 10, lines 46-56).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to disclose that the first and second transistors are formed on the same

Art Unit: 2629

substrate/semiconductor layer as taught by Yudasaka in the device of Nishitoba et al. One of ordinary skill in the art would have been motivated to the first and second transistors are formed on the same substrate/semiconductor layer in the device of Nishitoba et al. for the advantage of providing an active matrix display device employing an electroluminescent element in which no opposing substrate is required (Yudasaka: col. 11, lines 24-54). Additionally, both Nishitoba et al. and Yudasaka disclose an active matrix device comprises at least two thin film transistors and an electroluminescent element (Nishitoba: fig. 3; Yudasaka: fig. 1). Furthermore, one of ordinary skill in the art would have a reasonable expectation of success in the combination of Nishitoba et al. and Yudasaka because Yudasaka disclose that the method for forming the TFT does not require any modification of the well-known process (see e.g. col. 10, lines 46-56), and as a result forming the transistors on the same substrate/semiconductor layer would be a choice of experimental design and is considered within the purview of the cited prior art.

Therefore, the combine teachings of Nishitoba et al. and Yudasaka do render the device and method of the instant claims *prima facie* obvious.

### ***Response to Arguments***

6. Applicant's arguments directed to the above 103(a) rejection were considered but they are not persuasive for the following reasons. Please note that the above rejection has been modified from its original version to more clearly address applicant's newly amended and/or added claims and/or arguments.

[1] Applicant alleges that "*Yudasaka does not teach or suggest that the first TFT 20 and the second TFT 30 could or should share the same semiconductor layer or that Nishitoba should*

Art Unit: 2629

*be modified to include such features*". Thus, "*Nishitoba and Yudasaka, either alone or in combination, do not teach or suggest that a first transistor and a second transistor share a same semiconductor layer*".

This is not found persuasive for the following reasons:

[1] The examiner respectfully disagrees. It is the examiner's position that the combine teachings of Nishitoba et al. and Yudasaka do render the device and method of the instant claims *prima facie* obvious. First, the reference of Yudasaka does teach or suggest that '*the first TFT 20 and the second TFT 30 could or should share the same semiconductor layer*'. Yudasaka disclose the method of making the device comprises the steps of first forming a foundation protective film composed of a silicon oxide film (refers to instant claimed semiconductor layer); and then a semiconductor film in formed on the surface of the foundation protective film (see e.g. col. 9, lines 8-28). The semiconductor film is patterned into island like semiconductor film that result in the formation of the first TFT (ref. #20) and the second TFT (ref. #30) (refers to instant claimed limitation of '*wherein the first transistor and the second transistor share a same semiconductor layer*') (see e.g. col. 5, lines 31-35; col. 9, lines 1-54). Consequently, the reference of Yudasaka does teach or suggest that '*the first TFT 20 and the second TFT 30 could or should share the same semiconductor layer*'. Second, the reference of Yudasaka does cure the deficiency of Nishitoba et al., i.e. the limitation of '*wherein the first transistor and the second transistor share a same semiconductor layer*'.

Therefore, the combine teachings of Nishitoba et al. and Yudasaka do render the device of the instant claims *prima facie* obvious, and the rejection is maintained.



***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MY-CHAU T. TRAN whose telephone number is (571)272-0810. The examiner can normally be reached on Monday: 8:00-2:30; Tuesday-Thursday: 7:30-5:00; Friday: 8:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard A. Hjerpe can be reached on 571-272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2629

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MY-CHAU T. TRAN/  
Primary Examiner, Art Unit 2629

January 9, 2009